WHAT IS CLAIMED IS:

1. A method of determining spatial target probability using a model of multisensory processing by the brain, said method comprising the steps of:

acquiring at least two inputs from a location in a desired environment where a first target is detected;

applying said inputs to a plurality of model units in a map corresponding to a plurality of locations in said environment;

approximating a posterior probability of said first target at each of said model units;

finding a model unit with a highest posterior probability;

choosing a location in said environment corresponding to said model unit with a highest posterior probability as a location of a next target.

2. The method as defined in claim 1, wherein said at least two inputs are sensory inputs.

3. The method as defined in claim 2, wherein said at least two sensory inputs are video and audio inputs.

4. The method as defined in claim 1, wherein said posterior probability is a conditional probability of said first target given said at least two inputs.

5. The method as defined in claim 4, wherein said posterior probability is computed using Bayes' rule.

6. The method as defined in claim 5, wherein said posterior probability is approximated using a sigmoid curve function.

7. The method as defined in claim 5, wherein said posterior probability is approximated using a linear function.

8. The method as defined in claim 5, wherein said posterior probability is approximated using a bounded linear function.

9. The method as defined in claim 4, wherein said posterior probability is approximated using a sigmoid curve function.

10. The method as defined in claim 4, wherein said posterior probability is approximated using a linear function.

11. The method as defined in claim 4, wherein said posterior probability is approximated using a bounded linear function.

12. The method as defined in claim 4, wherein said next target is the same as said first target.

13. A method of determining spatial target probability using a neural network model of multisensory processing by the brain, said method comprising the steps of:

training a plurality model units in a map corresponding to a plurality of locations in a desired environment to output a desired value when an actual target is detected;

applying at least two inputs from said actual target in said desired environment;

finding one of said model units with a highest desired value; and

choosing a location in said environment corresponding to said model unit with said highest value as a location of said actual target.

14. The method as defined in claim 13, wherein said training step includes:

positioning a training target at a random location in said desired environment;

acquiring at least two inputs from said training target;

applying said at least two inputs said plurality model units in said map and obtaining actual responses of said model units;

generating desired responses for said model units;

finding differences between said actual and desired responses; and

using back-propagation to reduce said differences between said actual and desired responses.

15. A camera apparatus for automatically tracking a target in a known environment, said system comprising:

at least one audio and at least one video sensors for receiving audio and video signals from the target;

a controller for receiving said audio and video signals from said audio and video sensors and determining a probability of the target being at a location in the environment using a program modeling mutisensory processing of the brain;

at least one of a moveable directional audio and video sensor for turning to a location in the environment where a target probability is high as determined by said controller.

16. The apparatus as defined in claim 15 wherein said modeling program approximates a posterior probability of the target given said audio and video signals from the target.

17. The method as defined in claim 16, wherein said posterior probability is approximated using a linear function.

18. The method as defined in claim 16, wherein said posterior probability is approximated using a bounded linear function.

19. The method as defined in claim 16, wherein said posterior probability is approximated using a sigmoid curve function.

20. The apparatus as defined in claim 15 wherein said modeling program approximates Bayes' rule for calculating target probability given said audio and video signals from the target.

21. The method as defined in claim 20, wherein said Bayes' rule is approximated using a linear function.

22. The method as defined in claim 15, wherein said Bayes' rule is approximated using a bounded linear function.

23. The method as defined in claim 15, wherein said Bayes' rule is approximated using a sigmoid curve function.

24. The apparatus as defined in claim 15 wherein said modeling program estimates said target probability by training a